

# TENNESSEE AND KENTUCKY FUNGI

C. H. KAUFFMAN

The fungous flora of Tennessee and Kentucky has not been studied to the same extent as that of many other states. The main work so far seems to have been limited to the more important disease-producing species on cultivated plants. In addition, collections have been made in a few special groups confined to the eastern mountains. The general flora of the central and western portions of these states remain practically untouched.

During the month of September, 1916, the writer, accompanied by Mr. Frank B. Cotner as assistant, visited two localities. One week was spent at Harlan, Kentucky, and three weeks at Elkmont, Tennessee, in the heart of the western slopes of the Big Smoky Mountains. The latter region is not far remote from the Asheville region of North Carolina where so many eminent mycologists have collected and whose flora is quite well known. Many species were therefore found which are known from the ranges east of the Big Smoky.

The most important condition for the study of the fungous flora of a region is of course the weather. Heavy rains had fallen in Elkmont during July and August, so that the wood-inhabiting fungi were still rather plentiful. The species growing on the ground, however, were not in sufficient abundance to give any satisfactory idea of the flora, as the rains during our stay were few and scattered, and the summer fruiting species had all been stimulated by the heavy rains to early fruiting. The following list of agarics, for example, although not small, represents in each case a small number of individuals collected, giving no hint of the frequency of the species for the region.

Since the larger part of the list below comes from Elkmont, Tennessee, the species from Harlan, Kentucky, will be marked by an asterisk and those common to the two localities by a double asterisk.

## PHYCOMYCETES

- \**Synchytrium decipiens* Farl. On *Amphicarpa monoica*.  
 \**Cystopus Convolvulacearum* Otth. On *Ipomoea purpureum*.

## ASCOMYCETES

## GEOGLOSSACEAE

- Geoglossum difforme* (Fr.) Durand.  
*Geoglossum fallax* Durand. -  
*Geoglossum nigratum* Cooke.  
*Trichoglossum Walteri* (Berk.) Durand.  
*Leotia lubrica* Pers.  
*Leotia stipitata* (Bosc.) Schroet.  
 \**Microglossum rufum* (Schw.) Underw.

## HELVELLACEAE

- Helvella atra* König.  
*Helvella lacunosa* Afzel.

## PEZIZACEAE

- Lachnea hemispherica* (Wigg.) Gill.  
*Lachnea scutellata* Gill.  
*Macropodia macropus* Fuckel.  
*Plicaria vesiculosa* Bull.

## HALOTIACEAE

- Chlorosplenium aeruginosum* (Oed.) De Not.  
 \**Chlorosplenium versiforme* De Not.  
 \**Sarcascypha occidentalis* Schw.  
 \**Geopyxis nebulosa* (Cooke) Sacc.

## CENANGIACEAE

- \*\**Sarcosoma carolinianum* Durand. The ascospores of this species are slightly smaller than required, measuring  $22-28 \times 10-12 \mu$ . It was found several times both on wood and decaying leaves.

## HYSTERIACEAE

- \**Glonium stellatum* Muhl.

## ERYSIPHOCEAE

- Microsphaera Vaccinii* (Schw.) C. & P.

## HYPOCREACEAE

- Cordyceps ophioglossoides* Lk.  
 \*\**Cordyceps militaris* (L.) Lk.  
*Hypocrea pallida* Fr.  
*Hypocrea patella* Cooke & Pk.  
*Hyphomyces aurantiacum* (Pers.) Tul.  
 \*\**Podostroma alutacea* (Pers.) Atk.  
*Chromocreopsis cubispora* (Ellis & Holw.) Seaver.

Although the plants found differ in size, shape, and habit from the description of the above species it is not different. The stromata are caespitose-connate or confluent, forming tubercular masses 1-1.5 cm. high and as much as 2 cm. broad, empire-yellow (Ridg.) within and without, the parts subpyriform, *i. e.*, narrowed to the base, obtuse-rounded above, glabrous, punctate by the slender projecting dark olive ostioles; asci 8-spored, sp. pt. 50-55  $\times$  5-6  $\mu$ ; spores cuboidal, 5-6  $\times$  4-5  $\mu$ , dark-olive; spore-print blackish-olive. On old logs.

*Nectra cinnabarina* Fr.

SPHAERIACEAE

*Melanomma verrucaris* (Fr.) Sacc.

DIATRYPACEAE

\**Diatrype stigma* De Not.

\**Diatrype virescens* Schw.

\**Diatrypella favacea* (Fr.) Nitsche.

VALSACEAE

\**Eutypella glandulosa* (Cooke) Ellis.

MELOGRAMMATACEAE

\**Valsaria exasperans* (Gerard) Ellis. More properly *Myrmaecium exasperans* (Gerard). Syn: *Diatrype quadrata*, etc.

XYLARIACEAE

\**Daldinia concentrica* Ces. & De Not.

*Hypoxyton coccinea* Bull.

\**Hypoxyton cohaerens* Muhl.

\**Hypoxyton Howeianum* Pk.

\**Hypoxyton rubiginosum* Fr.

*Xylaria digitata* Grev.

\**Xylaria polymorpha* (Schroet.) Grev.

UREDINALES

MELAMPSORACEAE

\**Coleosporium Campanulae* (Pers.) Lev. On *Campanula americana*.

*Coleosporium inconspicuum* (Long) H. & L. On *Coreopsis major*.

*Coleosporium Ipomeae* (Schw.) Burr.

\*\**Coleosporium Solidaginis* (Schw.) Thüm. On *Solidago* ssp.

\*\**Coleosporium Vernoniae* B. & C. On *Vernonia* sp.

\**Pucciniastrum Hydrangeae* (B. & C.) Arth. On *Hydrangea arborescens*.

PUCCINIACEAE

*Puccinia atopuncta* Pk. & Clint. On *Melanthium parviflorum*.

\**Puccinia Circaeae* Pers. On *Circaea intermedia*.

\**Puccinia Helianthi* Schw. On *Helianthus microcephalus*.

- \**Puccinia Menthae*, forma americana Burr. On *Cunila origanoides*.  
*Puccinia Smilicis* Schw. On *Smilax rotundifolia*.  
 \**Uromyces appendiculata* (Pers.) Lk. On *Phaseolus vulgaris*.  
 \**Uromyces Euphorbiae* C. & P. On *Euphorbia Preslii*.  
 \**Uromyces Hyperici* (Schw.) Curt. On *Hypericum* sp.  
*Uromyces Lespedezae-procumbentis* (Schw.) Curt. On *Lespedeza* ssp.

## BASIDIOMYCETES

## THELEPHORACEAE (fide Burt.)

- |  |  |
|--|--|
| <i>Corticium album</i> Atk. & Burt.                | * <i>Stereum bicolor</i> Fr.               |
| <i>Corticium alutaceum</i> (Schrad.) Brid.         | <i>Stereum cinerascens</i> (Schw.).        |
| * <i>Corticium polyporideum</i> B. & C.            | ** <i>Stereum frustulosum</i> Fr.          |
| ** <i>Craterellus odoratus</i> Schw.               | <i>Stereum hirsutum</i> Fr.                |
| <i>Hymenochaete agglutinans</i> Ell.               | * <i>Stereum lobatum</i> Fr.               |
| <i>Hymenochaete Curtisii</i> (Berk.).              | <i>Stereum ochraceoflavum</i> Schw.        |
| ** <i>Hymenochaete tabacina</i> Fr.                | ** <i>Stereum rameale</i> Schw.            |
| * <i>Hymenochaete purpurea</i> Cooke.              | <i>Stereum sanguinolentum</i> Fr.          |
| ** <i>Hymenochaete rubiginosa</i> (Dicks.)<br>Lév. | ** <i>Stereum sericeum</i> Fr.             |
| * <i>Peniophora Allescheri</i> Bres.               | <i>Stereum sulcatum</i> Burt.              |
| ** <i>Peniophora cinerea</i> Fr.                   | <i>Stereum tuberculosum</i> Fr.            |
| * <i>Peniophora isabellina</i> Burt.               | <i>Thelephora albidobrunneus</i> Schw.     |
| <i>Peniophora velutina</i> (D. C.).                | <i>Thelephora humicola</i> Burt.           |
| <i>Sebacina incrustans</i> (Pers.) Tul.            | <i>Thelephora regularis</i> Schw.          |
| * <i>Solenia confusa</i> Bres.                     | * <i>Tremellodendron candidum</i> (Schw.). |

## HYDNACEAE

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| ** <i>Irpex cinnamomeus</i> Fr.  | * <i>Hydnum pulcherrimum</i> B. & C. |
| ** <i>Irpex farinaceus</i> Fr.   | <i>Hydnum scrobiculatum</i> Fr.      |
| <i>Irpex tulipifera</i> Schw.    | <i>Hydnum septentrionale</i> Fr.     |
| <i>Hydnum adustum</i> Schw.      | <i>Hydnum repandum</i> Fr.           |
| <i>Hydnum albidum</i> Pk.        | ** <i>Hydnum velutinum</i> Fr.       |
| <i>Hydnum coralloides</i> Fr.    | <i>Odontia Wrightii</i> B. & C.      |
| * <i>Hydnum ferruginosum</i> Fr. | <i>Phlebia albida</i> Fr.            |
| ** <i>Hydnum ochraceum</i> Fr.   | <i>Phlebia radiata</i> Fr.           |
| <i>Hydnum putidum</i> Atk.       |                                      |

## CLAVARIACEAE

- |                                |                                 |
|--------------------------------|---------------------------------|
| <i>Clavaria asperula</i> Atk.  | <i>Clavaria pistillaris</i> Fr. |
| <i>Clavaria curtus</i> Fr.     | <i>Clavaria pulchra</i> Pk.     |
| ** <i>Clavaria flava</i> Fr.   | <i>Clavaria pyxidata</i> Fr.    |
| <i>Clavaria fusiformis</i> Fr. | <i>Clavaria rugosa</i> Fr.      |
| <i>Clavaria mucida</i> Fr.     | ** <i>Clavaria stricta</i> Fr.  |

## POLYPORACEAE

- |                              |                               |
|------------------------------|-------------------------------|
| <i>Boletus bicolor</i> Pk.   | <i>Boletus granulatus</i> Fr. |
| <i>Boletus castaneus</i> Fr. | <i>Boletus luridus</i> Fr.    |

- Boletus luteus* Fr.  
 \*\**Boletus ornatipes* Pk.  
*Boletus retipes* B. & C.  
 \*\**Fistulina hepatica* Fr.  
 \*\**Fomes applanatus* Fr.  
*Fomes conchatus* Fr.  
 \*\**Fomes connatus* Fr.  
*Fomes fomentarius* Fr.  
*Fomes pinicola* Fr.  
 \*\**Fomes rimosus* Berk.  
 \*\**Polyporus adustus* Fr.  
 \*\**Polyporus albellus* Pk.  
*Polyporus benzoinus* Fr.  
 \**Polyporus Berkeleyi* Fr.  
 \**Polyporus caesius* Fr.  
*Polyporus chioneus* Fr.  
*Polyporus confluens* A. & S.  
*Polyporus cristatus* Fr.  
 \*\**Polyporus cuticularis* Fr.  
 \*\**Polyporus elegans* Fr.  
 \*\**Polyporus fissilis* B. & C.  
*Polyporus floriformis* Bres. fide  
 Lloyd.  
 \*\**Polyporus galactinus* Berk.  
 \*\**Polyporus gilvus* Fr.  
*Polyporus guttulatus* Pk.  
 \*\**Polyporus lucidus* Fr.  
*Polyporus Peckianus* B. & C. fide  
 Lloyd.  
*Polyporus picipes* Fr.  
 \*\**Polyporus Pilotae* Schw.  
*Polyporus resinosis* Fr.  
*Polyporus semisupinus* B. & C.  
*Polyporus Spraguei* B. & C.  
*Polyporus spumeus* Fr.  
 \*\**Polyporus sulphureus* Fr.  
*Polystictus barbatulus* Fr.  
*Polystictus biformis* Klotsch.  
 \**Polystictus haedinus* Berk. fide  
 Lloyd.  
 \**Polystictus hirsutellus* Schw. fide  
 Lloyd.
- Polystictus hirsutus* Fr.  
 \*\**Polystictus pergamenus* Fr.  
 \*\**Polystictus sanguineus* Fr.  
*Polystictus velutinus* Fr.  
 \**Polystictus versicolor* Fr.  
 \**Porothelium fimbriatum* Fr.  
*Poria attenuata* Pk.  
*Poria ambigua* Bres.  
*Poria betulina* (Murr.).  
 \*\**Poria cinerea* Schw.  
 \*\**Poria ferruginosa* Fr.  
*Poria medullae-panis* Fr.  
*Poria nitida* Fr.  
*Poria pulchella* Pk.  
*Poria purpurea* Fr.  
*Poria semitincta* Pk.  
 \*\**Poria subacida* Pk.  
*Poria sulphurella* Pk. fide Lloyd.  
*Poria undata* (Pers.) fide Lloyd.  
*Poria vaporarius* Fr.  
*Poria vitellina* Schw. fide Lloyd.  
*Poria vulgaris* Fr.  
*Poria Xantha* Fr.  
*Poria* spp.  
 \**Gloeoporus dichrous* (Fr.).  
*Trametes carnea* Cooke.  
 \**Trametes mollis* Fr.  
*Trametes robiniophila* Murr.  
 \**Trametes sepium* Fr.  
 \**Trametes serpens* Fr.  
 \**Daedalea ambigua* Berk.  
 \*\**Daedalea confragosa* Fr.  
 \**Daedalea unicolor* Fr.  
 \*\**Favolus europaeus* Fr.  
 \**Favolus Rhipidium* Berk.  
*Merulius corium* Fr.  
*Merulius molluscus* Fr.  
*Merulius rubellus* Pk.  
*Merulius tremellosus* Fr.  
*Merulius subaurantiacus* Pk.  
 \*\**Lenzites betulina* Fr.  
 \*\**Lenzites sepiaria* Fr.  
 \*\**Lenzites vialis* Pk.

## AGARICACEAE

- \*\**Amanita flavoconia* Atk.  
*Amanita mappa* Fr.  
*Amanita muscaria* Fr.
- \**Amanita rubescens* Fr.  
*Amanita solitaria* Fr.  
*Amanita tomentella* Kromb.

\*\**Amanita verna* Fr.

*Amanitopsis vaginata* Roze.

*Amanitopsis farinosa* Schw.

*Armillaria mellea* Fr.

\**Collybia abundans* Pk.

*Collybia butyracea* Fr.

\**Collybia confluens* Fr.

*Collybia dryophila* Fr.

*Collybia familia* Pk.

\*\**Collybia myriadohylla* Pk.

\*\**Collybia platyphylla* Fr.

\*\**Collybia radicata* Fr.

*Collybia strictipes* Pk.

\**Collybia zonata* Pk.

*Collybia conigenoides* Ellis. This is apparently a good species. Bresadola in Fung. Trid. II. p. 48 and 86, gives spore measurements of *C. esculenta* Wulf. and *C. conigena* Pers. as oblong,  $6-8 \times 3-4 \mu$ . The Tennessee species is quite common on fallen and old Magnolia cones. Pileus 6-12 mm. broad, whitish or "cinnamon-buff" (Ridg.), striate; gills adnexed, close; stems elongated where they arise from buried cones, and hairy as in *C. conigena*, almost filiform, toughish and flexuous; spores ovoid, white in mass, smooth,  $4-5.5 \times 3 \mu$ ; cystidia ventricose, scattered on sides of gills,  $45-55 \times 12-15 \mu$ , more abundant and flask-shaped on the edges, causing the pruinosity of the gills.

*Cantherellus cinnabarinus* Schw.

\*\**Cantherellus cibarius* Fr.

*Cantherellus floccosus* Schw.

*Cantherellus tubaeformis* Fr.

*Clitocybe cyathiformis* Fr.

*Clitocybe ectypoides* Pk.

*Clitocybe illudens* Schw.

*Clitocybe laccata* Fr.

*Clitocybe ochropurpurea* B. & C.

*Clitocybe piceina* Pk.

*Cortinarius alboviolaceus* Fr.

*Claudopus variabilis* Fr. In exact agreement with the description of Fries. *C. depluens* has angular spores, but Ricken seems to have confused the two species. Spores  $10-12 \times 5-6 \mu$ , ellipsoid.

*Clitopilus abortivus* Fr.

*Clitopilus orcella* Fr.

*Entoloma clypeatum* Fr.

*Entoloma griseum* Pk.

*Entoloma sericellum* Fr.

*Entoloma sericatum* Britz.

*Entoloma speculum* Fr.

*Hebeloma crustuliniforme* Fr.

*Hygrophorus ceraceus* Fr.

*Hygrophorus chlorophanus* Fr.

\*\**Hygrophorus marginatus* Pk.

*Hygrophorus miniatus* Fr. and var. *squamulosus* Pk.

*Hygrophorus Peckii* Atk.

*Hygrophorus pratensis* Fr.

*Hygrophorus psittacinus* Fr.

\*\**Hypholoma capnoides* Fr. var. *alleghaniensis* var. nov.

*Inocybe Cookei* Bres.

*Cortinarius bolaris* Fr.

*Cortinarius corruscans* Fr.

*Cortinarius flavifolius* Pk.

*Cortinarius infractus* Fr.

*Cortinarius hemitrichus* Fr.

*Cortinarius largus* Fr.

*Cortinarius lilacinus* Pk.

*Cortinarius rigens* Fr.

*Cortinarius torvus* Fr.

*Crepidotus appplanatus* Fr.

- Inocybe destricta* Fr.  
*Inocybe geophila* Fr.  
*Inocybe pallidipes* E. & E.  
*Inocybe praetervisa* Quél.  
*Inocybe rimosa* Fr.  
*Inocybe subochracea* var. *Burtii* Pk.  
*Inocybe trechispora* Berk.  
*Lactarius alpinus* Pk.  
*Lactarius cinereus* Pk.  
\*\**Lactarius corrugis* Pk.  
\*\**Lactarius griseus* Pk.  
*Lactarius lignyotus* Fr.  
\*\**Lactarius piperatus* Fr.  
*Lactarius Peckii* Burl.  
*Lactarius subdulcis* Fr.  
*Lactarius subpurpureus* Fr.  
*Lactarius theiogalus* Fr.  
*Lactarius trivialis* Fr.  
*Lactarius volemus* Fr.  
*Lepiota acutaesquamosa* Fr.  
*Lepiota adnatifolia* Pk.  
*Lepiota asperula* Atk.  
\**Lepiota cepaestipes* Fr.  
*Lepiota clypeolaria* Fr.  
*Lepiota granosa* Morg.  
*Leptonia lampropoda* Fr.  
\**Marasmius resinosis* Fr.  
\*\**Marasmius siccus* Schw.  
*Mycena cohaerens* Fr.  
*Mycena epipterygia* Fr.  
\**Mycena Leaiana* B. & C.  
*Mycena sanguinolenta* Fr.  
*Nolanea dysthales* (Pk.).  
\*\**Panus angustatus* Berk.  
\*\**Panus stipticus* Fr.  
*Panaeolus solidipes* Pk.  
\*\**Paxillus corrugatus* Atk.  
*Paxillus panuoides* Fr.  
*Paxillus rhodoxanthus* Schw.  
*Pholiota aggericola* Pk.  
*Pholiota flammans* Fr.  
*Pholiota lutea* Pk.  
\*\**Pholiota squarrosoides* Pk.  
\**Pleurotus applicatus* Fr.  
\*\**Pleurotus sapidus* Fr.  
\*\**Pluteus cervinus* Fr.  
*Pluteus nanus* Fr.  
\*\**Psalliota placomyces* Pk.  
\*\**Psathyrella disseminata* Fr.  
*Russula delicata* Fr.  
\*\**Russula emetica* Fr.  
\*\**Russula fragilis* Fr.  
*Russula foetens* Fr.  
*Russula flavida* Frost.  
*Russula flava* Romell.  
*Russula ochrophylla* Pk.  
*Russula squalida* Pk.  
\**Russula uncialis* Pk.  
*Russula variata* Banning.  
*Russula virescens* Fr.

***Russula ochroleuroides* sp. nov.**

Pileus 6–12 cm. broad, large, rigid, convex, soon expanded plane, varying straw-yellow to pale-ochraceous, usually dull-ocher to reddish-ocher toward center, pellicle adnate, soon dry and pulverulent to subrimose, even on the obtuse margin; flesh thick, compact, white, unchanging or slightly sordid in age; gills adnexed or free, rather narrow, rounded and broader in front, white or whitish, close to subdistant, shorter ones intermingled, often forked behind, intervenous; stem 4–6 cm. long, 1.5–2 cm. thick, short, rigid, equal or tapering slightly downward, white, glabrous or subpruinose, spongy-solid; spores even or minutely rough, 7–9  $\mu$  (incl. apiculus), white in mass; cystidia very few; basidia about 40  $\times$  9  $\mu$ ; taste tardily and slightly bitterish-acrid to disagreeably bitter; odor faintly aromatic or none.

Gregarious, on the ground in woods of deciduous trees. Infrequent. Elkmont, Tennessee, and Ann Arbor, Michigan. This seems to be a rather rare species and was found only three times. Although similar to *R. ochroleuca* in colors, it departs widely by belonging to the Rigidae, near *R. virescens*.

\*\**Schizophyllum commune* Fr.

***Stropharia caesiospora* sp. nov.**

Pileus 4-9 cm. broad, convex, obtuse, chamois to honey-yellow (Ridg.), subviscid, even, firm or slightly elastic, margin somewhat crenate-lobed; flesh white, rather thick and compact, thin on margin; gills crowded, narrow, adnexed-emarginate, at length rounded behind, heterophyllous, drab to hair-brown or ashy-gray; stem 4-9 cm. long, equal or slightly bulbous at the base, whitish, 6-12 mm. thick, slightly lacerate above the annulus, stuffed to solid, fibrillose-glabrescent; annulus persistent, membranous, flocculose below, striate-ridged above, becoming gray from the spores; spores minute,  $5-6 \times 3-4 \mu$ , ovoid, smooth, tinged purplish-cinereous under microscope, ashy in mass with a tint of purple; cystidia none, except few, inflated, sterile cells on edge of gills; odor slight.

Gregarious, on the ground among debris in chestnut and conifer mixed woods, Elkmont, Tennessee, September, 1916. The color of the half-mature gills is similar to that of *S. depilata* Fr., but paler. The annulus has the markings of *S. coronilla* Fr. and of *S. bilamellata* Pk., which differ in spore-size. It is near to the description of *S. obdurata*, which Ricken considers identical with *S. coronilla*. It was found a number of times.

*Tricholoma album* Fr.

*Tricholoma sejunctum* Fr.

*Tricholoma personatum* Fr.

*Tricholoma sulphureum* Fr.

*Tricholoma rutilans* Fr.

## TREMELLALES

*Tremella albida* Huds.

*Calocera viscosa* Fr.

*Tremellodon gelatinosum* Fr.

## GASTEROMYCETES

*Astraeus stellatus* (Scop.) E. Fischer

*Lycoperdon gemmatum* Batsch.

*Calostoma cinnabarinus* Desv.

*Lycoperdon pyriforme* (Schoeff.) Fr.

*Calvatia cyathiforme* (Bosc).

\*\**Lycoperdon subincarnatum* Pk.

*Cyathus striatus* (Huds.) Hoff.

*Scleroderma Geaster* Fr.

\**Geaster triplex* Jung.

\**Scleroderma tenerum* Berk.

*Geaster saccatus* Fr.

\*\**Scleroderma vulgare* Fr.

UNIVERSITY OF MICHIGAN,  
ANN ARBOR, MICHIGAN.